

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

HANSEN, Iver
Hernestangen, Jerdal,
N-3442 Hyggen
NORVÈGE

Date of mailing (day/month/year) 10 April 2001 (10.04.01)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference STUDNET 2000	
International application No. PCT/NO00/00240	International filing date (day/month/year) 13 July 2000 (13.07.00)

1. The following indications appeared on record concerning:		
<input checked="" type="checkbox"/> the applicant	<input checked="" type="checkbox"/> the inventor	<input type="checkbox"/> the agent <input type="checkbox"/> the common representative
Name and Address HANSEN, Iver Gjerdalsv. 3 N-3442 Hyggen Norway	State of Nationality NO	State of Residence NO
	Telephone No. (+47) 31 28 90 00	
	Facsimile No. (047) 31 28 90 01	
	Teleprinter No. Car/mobile(+47)90100	
2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:		
<input type="checkbox"/> the person	<input type="checkbox"/> the name	<input checked="" type="checkbox"/> the address <input type="checkbox"/> the nationality <input type="checkbox"/> the residence
Name and Address HANSEN, Iver Hernestangen, Jerdal, N-3442 Hyggen Norway	State of Nationality NO	State of Residence NO
	Telephone No. (+47) 31 28 90 00	
	Facsimile No. (047) 31 28 90 01	
	Teleprinter No. Car/mobile(+47)90100	
3. Further observations, if necessary: The new applicant's address on the Demand has been considered as a change under Rule 92bis. In case of disagreement, the International Bureau should be notified immediately.		
4. A copy of this notification has been sent to:		
<input checked="" type="checkbox"/> the receiving Office	<input type="checkbox"/> the designated Offices concerned	
<input type="checkbox"/> the International Searching Authority	<input checked="" type="checkbox"/> the elected Offices concerned	
<input checked="" type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:	

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer C. Cupello Telephone No.: (41-22) 338.83.38
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PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
US Department of Commerce
United States Patent and Trademark
Office, PCT
2011 South Clark Place Room
CP2/5C24
Arlington, VA 22202
ETATS-UNIS D'AMERIQUE
in its capacity as elected Office

Date of mailing (day/month/year) 10 April 2001 (10.04.01)	
International application No. PCT/NO00/00240	Applicant's or agent's file reference STUDNET 2000
International filing date (day/month/year) 13 July 2000 (13.07.00)	Priority date (day/month/year) 13 July 1999 (13.07.99)
Applicant HANSEN, Iver	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
13 February 2001 (13.02.01)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer C. Cupello Telephone No.: (41-22) 338.83.38
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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/NO00/00240

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-14</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>6, 10-12, 14</u>	YES
	Claims	<u>1-5, 7-9, 13</u>	NO
Industrial applicability (IA)	Claims	<u>1-14</u>	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

The present invention relates to a movable tire stud system that allows adjustability of tire studs while a vehicle is either in motion or parked.

In the Search Report is cited:

D1 DE 2 103 114
D2 WO 9726144
D3 US 4 883 104
D4 DE 2 940 409

D1 discloses a system of movable vehicle tire studs, said system has leak proof transmission means for moving studs in and out of stud holes in tire shoulders.

D3 and D4 show similar systems.

Considering what is previously known from the above mentioned documents, the subject matter of claim 1 lacks inventive step. The invention defined in claims 2-5, 7-9 and 13 does not differ from the known technique described in the cited documents in any essential way. Therefore, the invention according to claims 2-5, 7-9 and 13 is considered obvious to a person skilled in the art. Consequently, the invention according to claims 2-5, 7-9 and 13 is not considered to involve an inventive step.

Claims 6, 10-12 and 14 appear to fulfil the requirements of novelty, inventive step and industrial applicability.

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 17 OCT 2001	
WIPO	PCT

Applicant's or agent's file reference STUDNET 2000	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/NO00/00240	International filing date (day month year) 13.07.2000	Priority date (day month year) 13.07.1999
International Patent Classification (IPC) or national classification and IPC B60C 11/16		
Applicant Hansen, Iver		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>3</u> sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of _____ sheets.</p>
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>

Date of submission of the demand 13.02.2001	Date of completion of this report 05.10.2001
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. 08-667 72 88	Authorized officer Göran Carlström/js Telephone No. 08-782 25 00

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/NO00/00240

I. Basis of the report**1. With regard to the elements of the international application:***

- ☒ the international application as originally filed
- ☐ the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the claims:
pages _____, as originally filed
pages _____, as amended (together with any statement) under article 19
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the drawings:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheet/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2 (c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item I and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/NO00/00240

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims	<u>1-14</u>	YES
	Claims	_____	NO
Inventive step (IS)	Claims	<u>6, 10-12, 14</u>	YES
	Claims	<u>1-5, 7-9, 13</u>	NO
Industrial applicability (IA)	Claims	<u>1-14</u>	YES
	Claims	_____	NO

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Claims 6, 10-12 and 14 appear to fulfil the requirements of novelty, inventive step and industrial applicability.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/NO 00/00240

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: B60C 11/16

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: B60C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI; EPODOC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 2103114 A1 (PRESTEL, ROLAND), 27 July 1972 (27.07.72)	1,2,4,5
Y	--	3,7,8,9,13
Y	WO 9726144 A1 (HANSEN, IVER), 24 July 1997 (24.07.97)	3,7,8,9,13
X	US 4883104 A (MINAMI), 28 November 1989 (28.11.89)	1,8,9
X	DE 2940409 A1 (HÜTTNER, FRANS), 16 April 1981 (16.04.81)	1

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"Γ" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

14 November 2000

Date of mailing of the international search report

23 -11- 2000

Name and mailing address of the ISA /

Swedish Patent Office
Box 5055, S-102 42 STOCKHOLM
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Authorized officer

Göran Carlström/js
Telephone No. +46 8 782 25 00

INTERNATIONAL SEARCH REPORT

Information on patent family members

02/11/00

International application No.

PCT/NO 00/00240

DE	2103114	A1	27/07/72	NONE		
WO	9726144	A1	24/07/97	NO	955043 A	03/07/97
US	4883104	A	28/11/89	NONE		
DE	2940409	A1	16/04/81	FR	2466356 A,B	10/04/81
				IT	1132008 B	25/06/86
				IT	8023758 D	00/00/00

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
8 February 2001 (08.02.2001)

PCT

(10) International Publication Number
WO 01/08907 A1

(51) International Patent Classification?: B60C 11/16

(21) International Application Number: PCT/NO00/00240

(22) International Filing Date: 13 July 2000 (13.07.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
19981033 13 July 1999 (13.07.1999) NO
19981033 27 December 1999 (27.12.1999) NO
20001122 4 March 2000 (04.03.2000) NO

(81) Designated States (*national*): AT, AU, BG, BR, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, HU, ID, IL, IS, JP, KP, KR, LR, LU, MX, NO, NZ, PL, PT, RO, RU, SE, SG, SI, SK, TR, TT, US, YU.

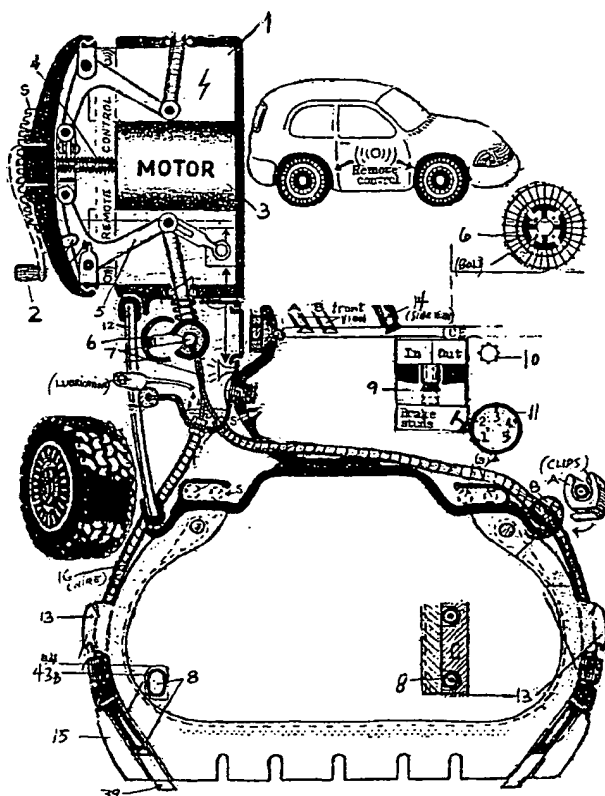
(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:
— With international search report.

(71) Applicant and
(72) Inventor: HANSEN, Iver [NO/NO]; Gjerdalsv. 3,
N-3442 Hyggen (NO).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ALL YEAR TRACTION TIRE STUD SYSTEM



(57) Abstract: All year traction tire stud system having leak proof transmission means like metal wires for moving studs in and out of stud holes on the tire shoulders. Said means also movable on the tire sides outside the tire casing. Optionally operated by wireless remote control from the driver's seat when driving on ice, snow, mud, wet grass, slippery terrain and roads.

WO 01/08907 A1

ALL YEAR TRACTION TIRE STUD SYSTEMBackground of the invention.

1. Field of the invention.

The present invention relates to a movable tire stud system that allows adjustability of tire studs while a vehicle is either in motion or parked to quickly help solve the problems related to driving on slippery and icy roads.

2. Discussion of the background.

Many attempts have been made to solve these problems. Most systems do not function properly over long periods due to the considerable wear and tear the studding equipment must endure during the course of driving. Some adjustable studding systems require air pressure to move studs in and out. Unfortunately, such systems function inefficiently. When the studs are pressed against road surfaced, the air tends to compress. Thus the studs are forced back down into the tires.

A similar effect of insufficient pressure is

seen when air is entering vehicle brake system hoses.

Other systems require studs to penetrate the tire casing.

This is considered by professionals to be quite unacceptable in the long run due to the heavy friction, wear and tear leading to air leakage and humidity penetrating into the tire causing steel belt corrosion and thus tire separation within a short period of time. Other known systems of movable studs are useless because the studs are either too big, too complicated, expensive, or they consist of components that are vulnerable to sandy water, frost, shocks etc. and consequently become easily damaged, jammed or worn too quickly.

Norwegian patent application #861224 shows an arrangement of studs and consists of a movable wall which combined with the inner wall of the tire forms an air chamber. Consequently, the above mentioned problems are not solved in that system because it is based on air and requires penetration of the tire casing. German laid-open application #2602544 and #1680491 and U.S. Pat. Nos. 3,766,956, 3,340,921 and 3,095,918 are likewise either based on the use of air or penetration

of the tire casing thus leaving the above mentioned problems unsolved. Besides, such movable stud types often need much space. Moreover, when placing movable studs under or in the tire tread, a considerable tread thickness is normally required. Thick tread tends to cause tire heating and consequently reduced driving quality.

Icelandic laid-open publication #131970 also shows a system of movable studs based on air pressure and has all the disadvantages mentioned above. Furthermore, such a system of hoses rotating inside the tire at a high speed increases the danger of explosion (flat tire). Moreover, a flat tire will probably also damage this studded system.

U.S. Pat. No. 2,941,566 uses fluid to move the studs, but requires penetration of the tire casing thus leaving the above mentioned problems unsolved.

Summary of the invention.

Experiments confirm that the stud system mentioned herein has several advantages. First, it is more durable than the air systems and hydraulic systems of the cited publications because of the combination of stud jacks mounted in the shoulder of the unsiped tread blocks and the construction of the system being similar to a vehicle's brake system. When pressing the brake pedal, the piston in the brake cylinder is forced against the brake shoes. In the present invention, the tire studs are pressed against the road surface by an equivalent force. Another advantage is that wires will not leak like fluids or air systems and are more durable on bumpy roads. Adjustment of the studs can also be made possible in a simple manual fashion via a handle.

Different from the above cited publications, the studs of the present invention are mounted in extra large, unsiped shoulder blocks of the tread without penetrating the tire casing. Studs may also be mounted elsewhere on the tire tread if allowed by the tire dimensions, for instance on truck tires. Regarding this system for smaller vehicles, few tires have shoulder blocks of the tread of the necessary dimension.

However, it is possible to produce such tires.

Some rugged terrain tires have sufficient tread thickness for mounting small movable studs without penetration of the tire casing. Adaptability of the stud system may be improved through further development.

Practically speaking, a functioning system of movable studs is required infrequently. This system gives vehicle owners the convenience of not having to change tires every autumn and spring or use chains. While traditional studding systems are in use the whole winter season and are quickly worn out, movable studs will stay sharper because they are not used as often. Sharper studs means better traffic safety. Studs being used continuously throughout the winter season also means enormous extra expenses for road maintenance as well as increased air pollution. Because stationary studs are used throughout the winter season, they must be smaller than movable studs to reduce wear on roads. Consequently, professionals point out that movable studs may protrude more than traditional stationary studs, thereby reducing the breaking distance on icy roads considerably, especially compared to tires without studs. There is generally no better alternative than using tires with good studs when driving on newly fallen snow on icy roads.

Consequently, there is an obvious need for the movable stud system as presented herein. The need is met by making available a stud system of the type precisely defined in the appended patent claims.

Description of the drawings.

The stud system in accordance with the present invention is hereby described more closely by referring to exemplary embodiments thereof and with reference to the enclosed drawings wherein:

Fig.1 shows a cross section of the wheel and the studded tire wire system.

Fig.2 shows the wheel seen from the outside/the side of the wheel facing outwards.

Fig.3 shows the same side of the wheel as in fig.2, but with the hub cap on.

Fig.4 shows a cross section of the wheel when using a more simple manual tire stud system.

Fig.5 shows the same as fig.4, but with somewhat less straight studs, designed more according to the shape of the tire.

Fig.6 shows details by the shoulder block for the manual stud system seen from the side facing outwards.

Fig.7 show details by the shoulder block for the best system offering drivers remote control traction from the driver's seat.

C L A I M S

1. System of movable vehicle tire studs, characterized in that said system has leak proof transmission means like metal wires for moving studs in and out of stud holes on the tire shoulders, said leak proof means like wires also movable on the tire sides outside the tire casing and may be easily replaced by being threaded in and out of protruding portions of the tire (15)(13).
2. System as claimed in claim 1, wherein the length of said studs is not limited by the tire tread thickness because the studs (fig.1) may be mounted into the tire blocks in a more tilted position in relation to road surface than normal for tire studs and mounted in extra large unsiped portions of the tire shoulder blocks and requires less space than hydraulic system studs having pressure chambers for liquids, pistons, gaskets, valves etc.
3. System as claimed in claim 2, wherein said wire and in a tire stud by the tire tread, said stud preferably having a frustoconical or frusto-pyramidal stud tip (39) which is thickest at the very end of the stud to improve road grip.
4. System as claimed in claim 2, wherein the tire shoulder blocks, having extra large unsiped portions, is thereby protruding and thus making the tire tread distinctively wider than the average tire tread of the same size tire casing.
5. System as claimed in claim 4, wherein said studs may be moved manually by a small handle (fig.5,40) to a protruding or retracted position e.g. by having a pin (42) enter into notches (41).
6. System as claimed in claim 1, wherein the cross section drawing of the stud (8') and sleeve (44) shows an oblong/oval/rectangular shape thereby making it impossible for the stud to twist too much when being used.

6.

7. System as claimed in claim 1,
wherein a stud moving source (1) positioned in the wheel rim may be operated either manually by a handle (2) or by an electromotor (3).
8. System as claimed in claim 7,
wherein said electromotor may be activated by the driver by touching a switch/button on the dashboard, thereby transmitting e.g. radio signals to a receiver in the wheel rim, said receiver connected to the electromotor and thus making the motor's axle shaft (4) spin clockwise or anti-clockwise. By having threads on the axle, axle rotation will make e.g. metal arm (5) move wire distributor (6) and wires (16) and studs (8).
9. System as claimed in claim 8,
wherein said stud moving components in the wheel centre are under normal circumstances leak proof and balanced / counterbalanced to counteract wheel imbalance when driving.
10. System as claimed in claim 8,
wherein a display (9) on the dashboard gives the driver information (30) about stud protrusion.
11. System as claimed in claim 10,
wherein said display may be adjusted by a regulator (10) according to tire thickness and stud protrusion.
12. System as claimed in claim 10,
wherein there is a timer (11) available for programming how many minutes studs are to protrude before automatic retraction.
13. System as claimed in claim 1,
wherein said system is energized by e.g. solar cells (12), induction, slip ring, pendulum dynamo, plug-in charging when parked.
14. System as claimed in claim 1,
wherein the tire sides have a protruding portion (13).

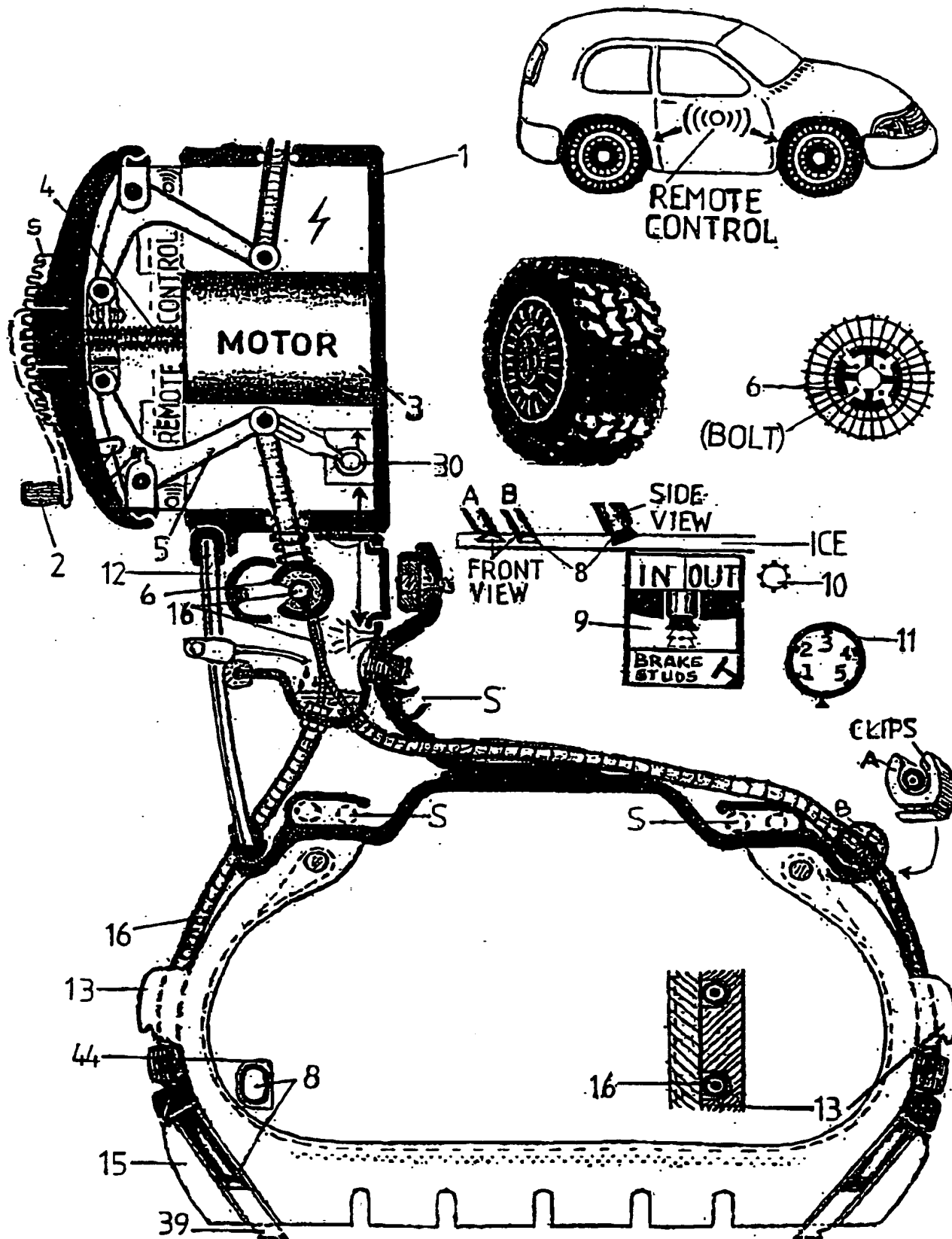


FIG.1

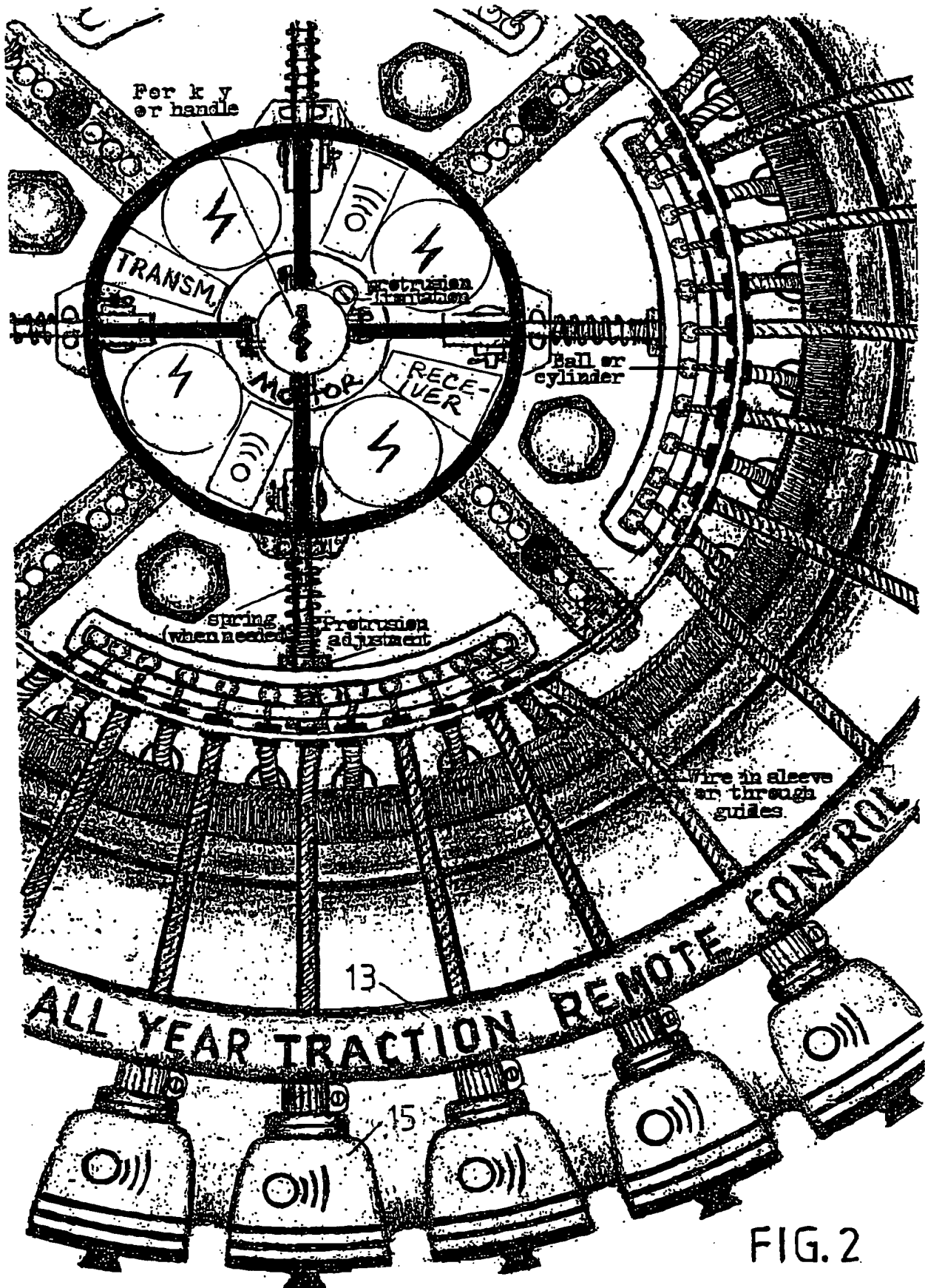


FIG. 2

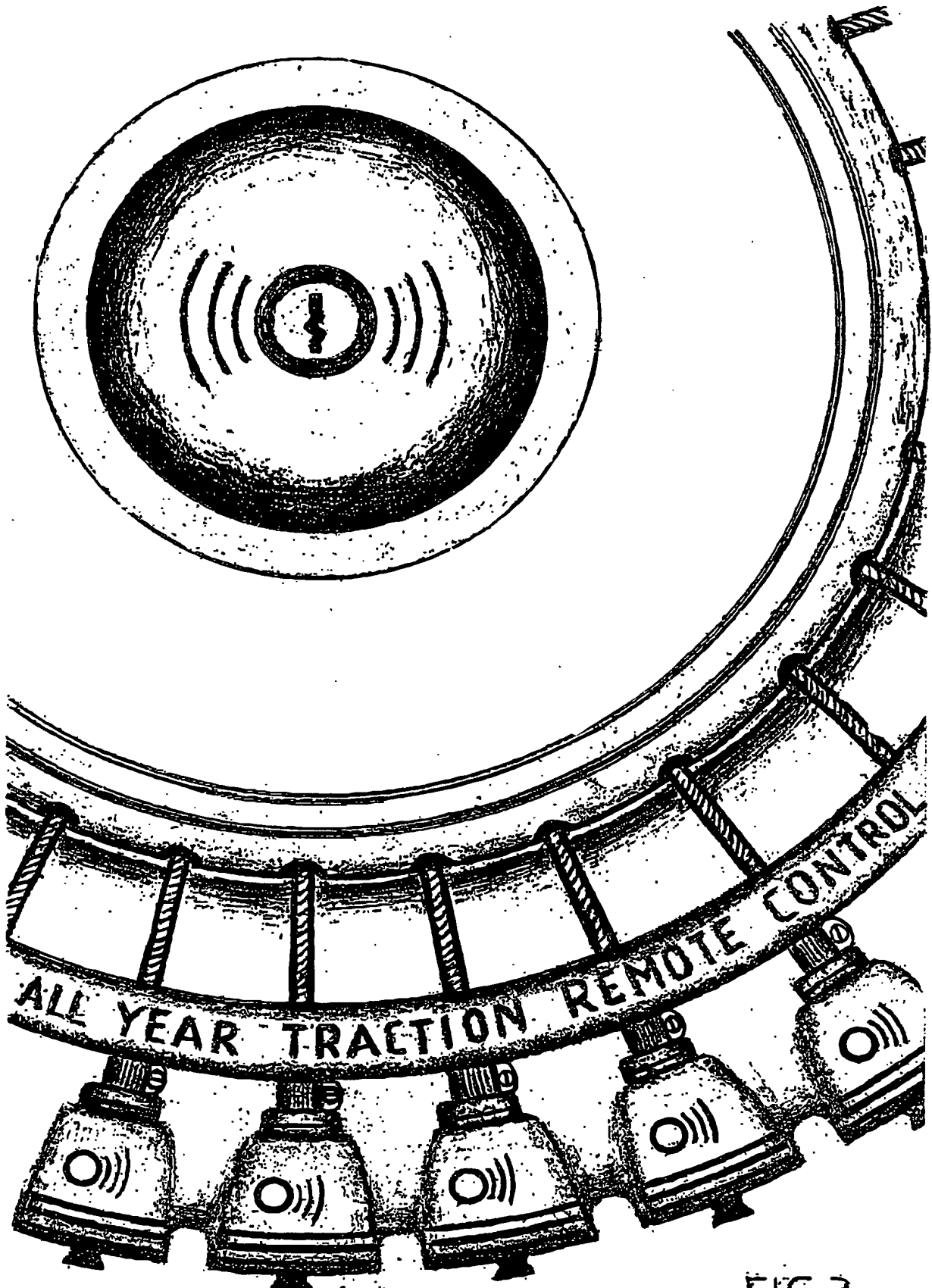
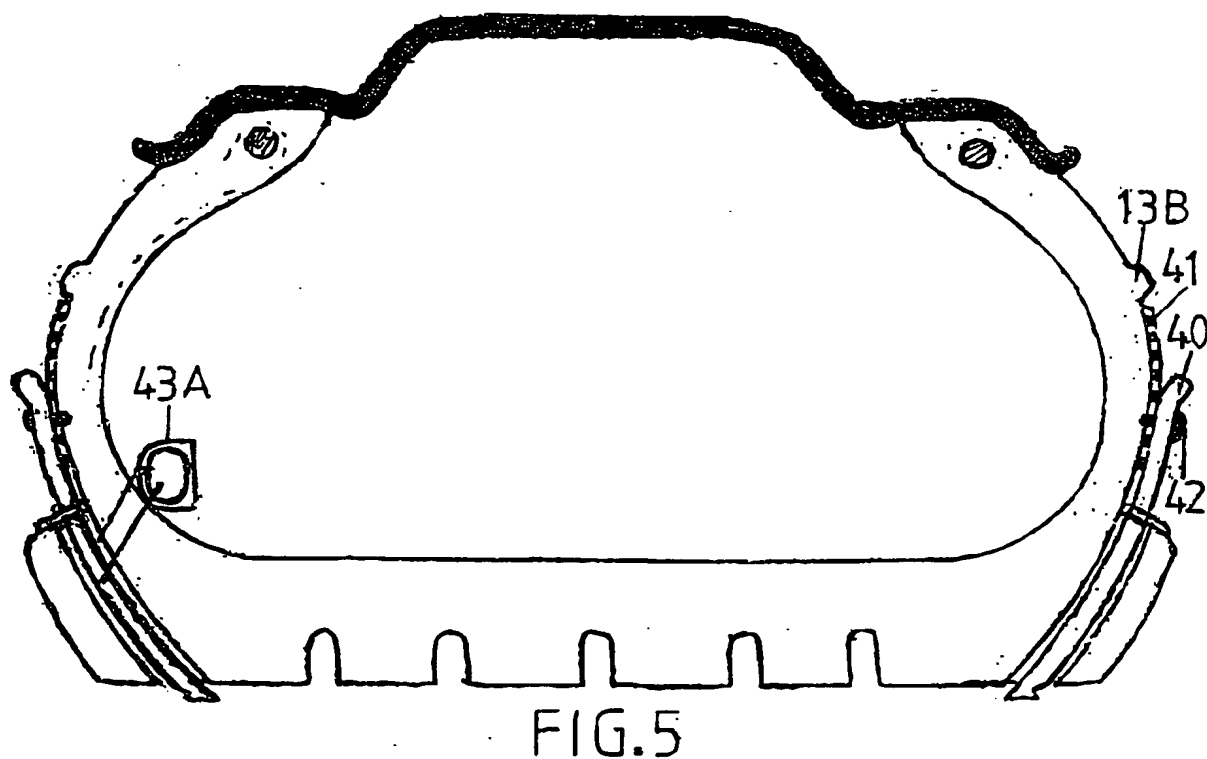
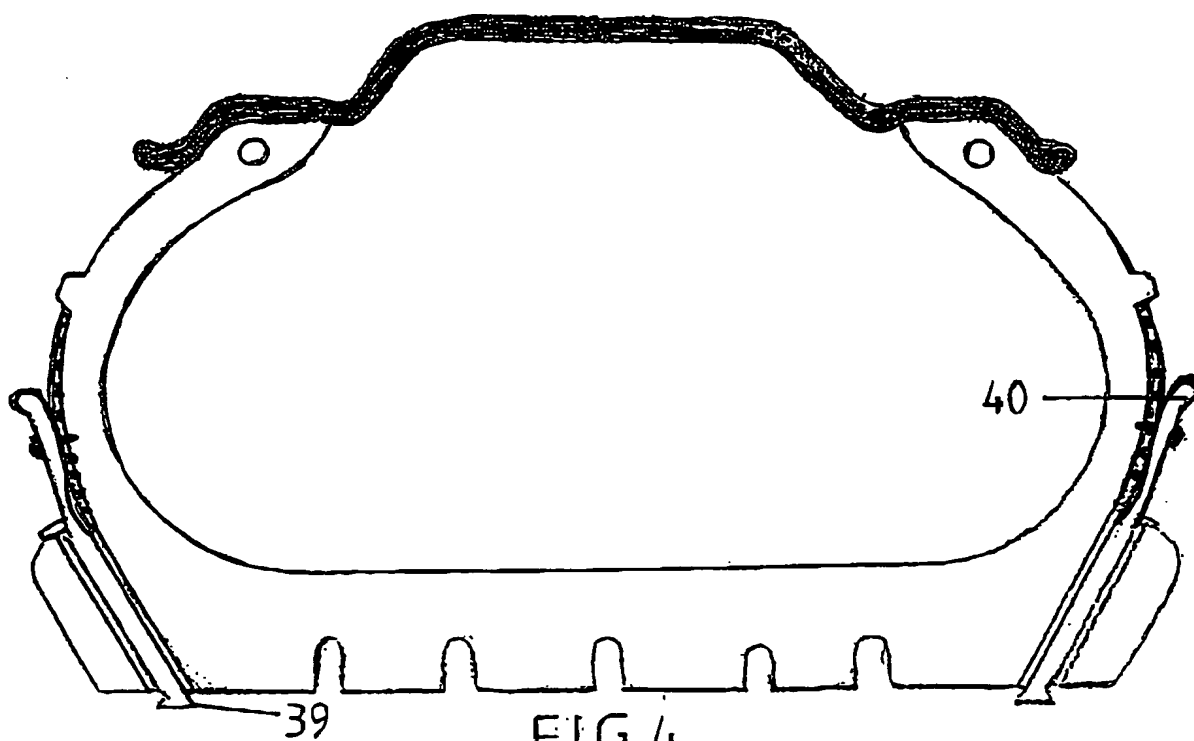


FIG. 3



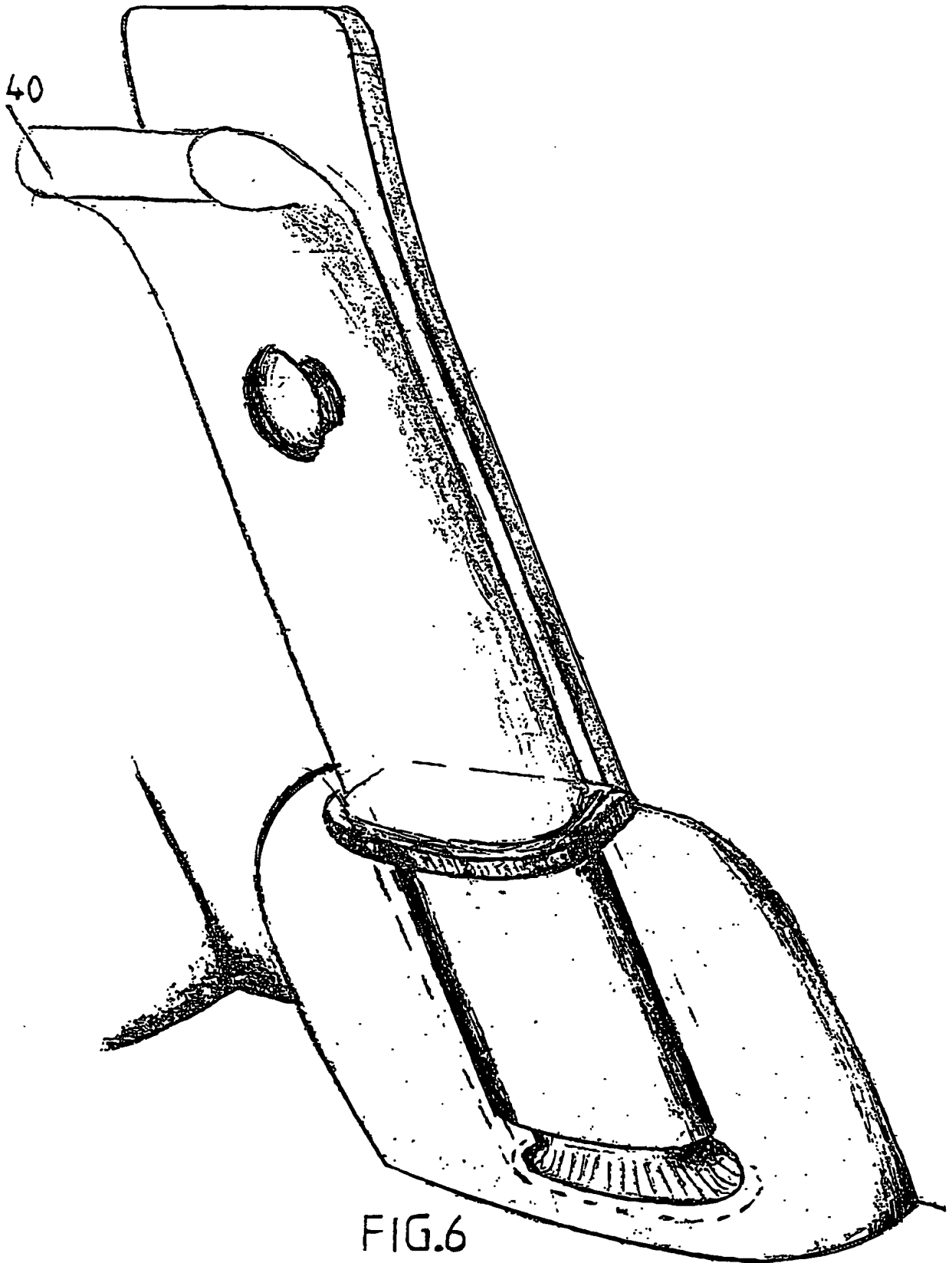


FIG. 6

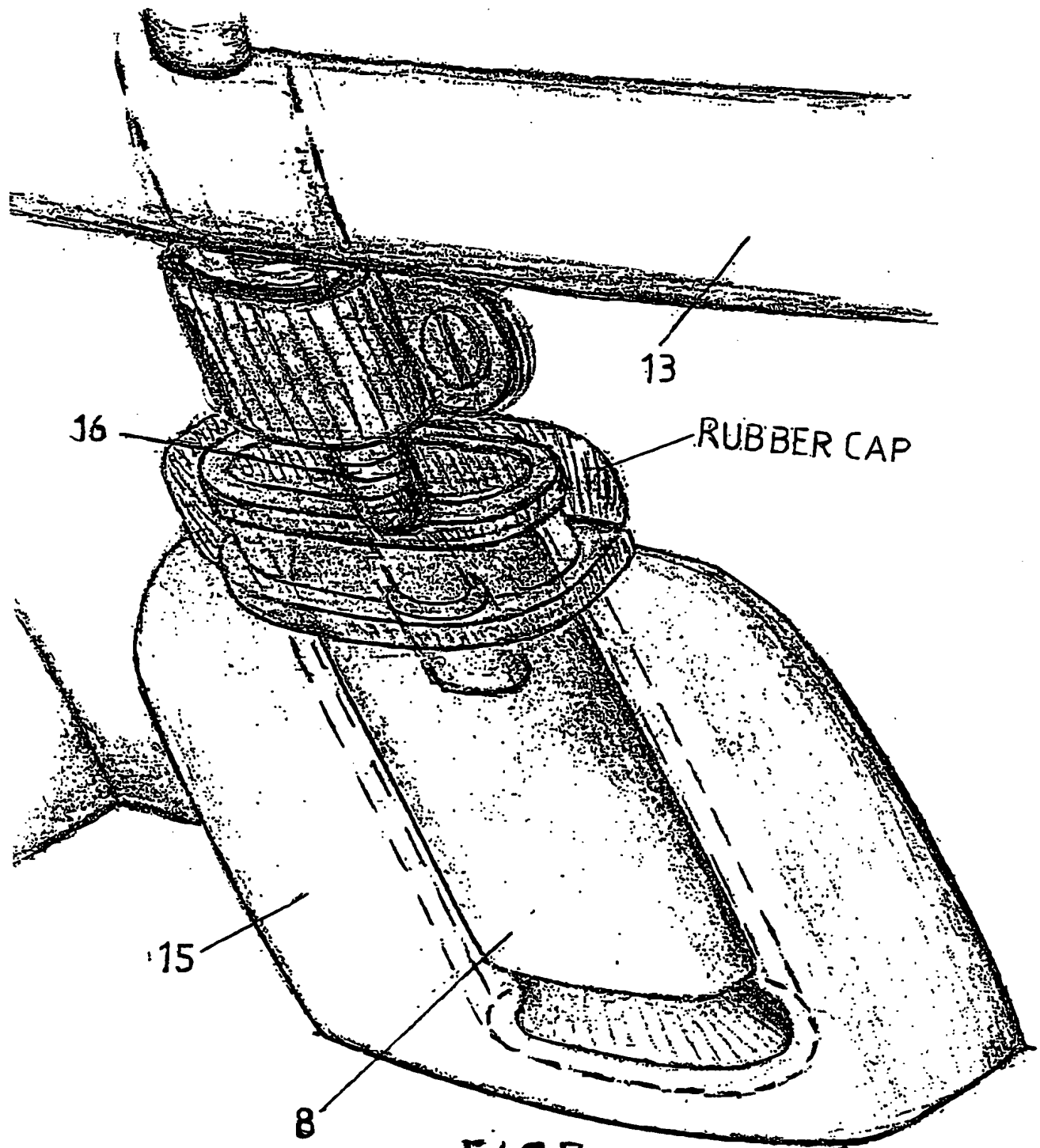


FIG. 7

INTERNATIONAL SEARCH REPORT

International application No.

PCT/NO 00/00240

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: B60C 11/16

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: B60C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI; EPODOC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 2103114 A1 (PRESTEL, ROLAND), 27 July 1972 (27.07.72)	1,2,4,5
Y	--	3,7,8,9,13
Y	WO 9726144 A1 (HANSEN, IVER), 24 July 1997 (24.07.97)	3,7,8,9,13
X	US 4883104 A (MINAMI), 28 November 1989 (28.11.89)	1,8,9
X	DE 2940409 A1 (HÜTTNER, FRANS), 16 April 1981 (16.04.81)	1

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"I" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

14 November 2000

Date of mailing of the international search report

23 -11- 2000

Name and mailing address of the ISA:

Swedish Patent Office
Box 5055, S-102 42 STOCKHOLM
Facsimile No. +46 8 666 02 86

Authorized officer

Göran Carlström/js
Telephone No. +46 8 782 25 00

INTERNATIONAL SEARCH REPORT

Information on patent family members

02/11/00

International application No.

PCT/NO 00/00240

DE	2103114	A1	27/07/72	NONE		
WO	9726144	A1	24/07/97	NO	955043 A	03/07/97
US	4883104	A	28/11/89	NONE		
DE	2940409	A1	16/04/81	FR	2466356 A,B	10/04/81
				IT	1132008 B	25/06/86
				IT	8023758 D	00/00/00

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

Hansen, Iver
Hernestangen, Jerdal
N-3442 Hyggen
NORGE

PCT

WRITTEN OPINION

(PCT Rule 66)

Date of mailing
(day/month/year)

01 -06- 2001

Applicant's or agent's file reference

studnet 2000

REPLY DUE

within 60 days
from the above date of mailing

International application No.

PCT/NO00/00240

International filing date (day/month/year)

13/07/2000

Priority date (day/month/year)

13/07/1999

International Patent Classification (IPC) or both national classification and IPC7

B60C 11/16

Applicant

HANSEN, Iver

1. This written opinion is the first (first, etc.) drawn by this International Preliminary Examining Authority.

2. This opinion contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

3. The applicant is hereby invited to reply to this opinion.

When? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also For an additional opportunity to submit amendments, see Rule 66.4.
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4bis.
For an informal communication with the examiner, see Rule 66.6.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 13/11/2001

Name and mailing address of the IPEA/SE

Patent- och registreringsverket
Box 5055
S-102 42 STOCKHOLM

Telex

17978

PATOREG-S

Authorized officer

Göran Carlström/JAN

Telephone No. 08-782 25 00

Facsimile No. 08-667 72 88

Form PCT/IPEA/408 (cover sheet) (January 1998)

WRITTEN OPINION

International application No.

PCT/NO00/00240

I. Basis of the opinion

1. With regard to the elements of the international application:*

- ☒ the international application as originally filed
- ☐ the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the claims:
pages _____, as originally filed
pages _____, as amended (together with any statement) under article 19
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the drawings:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the written opinion was drawn on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheet/fig _____

5. ☐ This opinion has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2 (c)).

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed".

WRITTEN OPINION

International application No.

PCT/NO00/00240

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-14</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>6, 10-12, 14</u>	YES
	Claims	<u>1-5, 7-9, 13</u>	NO
Industrial applicability (IA)	Claims	<u>1-14</u>	YES
	Claims		NO

2. Citations and explanations

The present invention relates to a movable tire stud system that allows adjustability of tire studs while a vehicle is either in motion or parked.

In the Search Report is cited:

D1 DE 2 103 114
 D2 WO 9726144
 D3 US 4 883 104
 D4 DE 2 940 409

D1 discloses a system of movable vehicle tire studs, said system has leak proof transmission means for moving studs in and out of stud holes in tire shoulders.

D3 and D4 show similar systems.

Considering what is previously known from the above mentioned documents, the subject matter of claim 1 lacks inventive step. The invention defined in claims 2-5, 7-9 and 13 does not differ from the known technique described in the cited documents in any essential way. Therefore, the invention according to claims 2-5, 7-9 and 13 is considered obvious to a person skilled in the art. Consequently, the invention according to claims 2-5, 7-9 and 13 is not considered to involve an inventive step.

Claims 6, 10-12 and 14 appear to fulfil the requirements of novelty, inventive step and industrial applicability.

The demand must be filed directly with the competent International Preliminary Examining Authority or, if two or more Authorities are competent, with the one chosen by the applicant. The full name or two-letter code of that Authority may be indicated by the applicant on the line below:

IPEA/ SE (PRV SWEDEN, FAX 0046-86677288)

PCT

CHAPTER II

DEMAND

under Article 31 of the Patent Cooperation Treaty:
The undersigned requests that the international application specified below be the subject of international preliminary examination according to the Patent Cooperation Treaty and hereby elects all eligible States (except where otherwise indicated).

For International Preliminary Examining Authority use only	
Identification of IPEA	Date of receipt of DEMAND
Box No. I IDENTIFICATION OF THE INTERNATIONAL APPLICATION	
Applicant's or agent's file reference <u>STUDNET 2000</u>	
International application No. <u>PCT/NO 00/00240</u>	International filing date (day/month/year) <u>13 JULY 2000 (13.07.00)</u>
(Earliest) Priority date (day/month/year) <u>13 JULY 1999</u>	
Title of invention <u>ALL YEAR TRACTION TIRE STUD SYSTEM</u>	
Box No. II APPLICANT(S)	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.) <u>HANSEN, IVER</u> <u>HERNESTANGEN, JERDAL,</u> <u>N-3442 HYGGEN,</u> <u>NORWAY.</u>	
Telephone No.: <u>(+47) 31289000</u>	
Facsimile No.: <u>+47 - 31289001</u>	
Teleprinter No.:	
State (that is, country) of nationality: <u>NORWAY</u>	State (that is, country) of residence: <u>NORWAY</u>
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)	
<div style="border: 1px solid black; height: 100px; width: 100%;"></div>	
State (that is, country) of nationality:	State (that is, country) of residence:
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)	
<div style="border: 1px solid black; height: 100px; width: 100%;"></div>	
State (that is, country) of nationality:	State (that is, country) of residence:
<input type="checkbox"/> Further applicants are indicated on a continuation sheet.	

Sheet No. 2

International application No.

PCT/NO 00/00240

Box No. III AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE

The following person is ☐ agent ☐ common representative

and ☐ has been appointed earlier and represents the applicant(s) also for international preliminary examination.

☐ is hereby appointed and any earlier appointment of (an) agent(s)/common representative is hereby revoked.

☐ is hereby appointed, specifically for the procedure before the International Preliminary Examining Authority, in addition to the agent(s)/common representative appointed earlier.

Name and address: (Family name followed by given name: for a legal entity, full official designation.
The address must include postal code and name of country.)

HANSEN, IVER (ONLY APPLICANT/INVENTOR)
HERNESTANGEN,
JERDAL
N-3442 HYGGEN
NORWAY.

Telephone No.:

+47-31289000

Facsimile No.:

+47-31289001

Teleprinter No.:

☒ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

Box No. IV BASIS FOR INTERNATIONAL PRELIMINARY EXAMINATION

Statement concerning amendments:*

1. The applicant wishes the international preliminary examination to start on the basis of:

☐ the international application as originally filed

the description ☐ as originally filed

☒ as amended under Article 34

the claims ☐ as originally filed

☒ as amended under Article 19 (together with any accompanying statement)

☒ as amended under Article 34

the drawings ☐ as originally filed

☒ as amended under Article 34

2. ☐ The applicant wishes any amendment to the claims under Article 19 to be considered as reversed.

3. ☒ The applicant wishes the start of the international preliminary examination to be postponed until the expiration of 20 months from the priority date unless the International Preliminary Examining Authority receives a copy of any amendments made under Article 19 or a notice from the applicant that he does not wish to make such amendments (Rule 69.1(d)). (This check-box may be marked only where the time limit under Article 19 has not yet expired.)

* Where no check-box is marked, international preliminary examination will start on the basis of the international application as originally filed or, where a copy of amendments to the claims under Article 19 and/or amendments of the international application under Article 34 are received by the International Preliminary Examining Authority before it has begun to draw up a written opinion or the international preliminary examination report, as so amended.

Language for the purposes of international preliminary examination: ENGLISH

☒ which is the language in which the international application was filed.

☐ which is the language of a translation furnished for the purposes of international search.

☐ which is the language of publication of the international application.

☐ which is the language of the translation (to be) furnished for the purposes of international preliminary examination.

Box No. V ELECTION OF STATES

The applicant hereby elects all eligible States (that is, all States which have been designated and which are bound by Chapter II of the PCT)

excluding the following States which the applicant wishes not to elect:

Sheet No. 3

International application No.

PCT/No 00/00240

Box No. VI CHECK LIST

The demand is accompanied by the following elements, in the language referred to in Box No. IV, for the purposes of international preliminary examination:

- | | | |
|--|---|--------|
| 1. translation of international application | : | sheets |
| 2. amendments under Article 34 | : | sheets |
| 3. copy (or, where required, translation) of amendments under Article 19 | : | sheets |
| 4. copy (or, where required, translation) of statement under Article 19 | : | sheets |
| 5. letter | : | sheets |
| 6. other (specify) | : | sheets |

LETTER AND AMENDMENTS WILL
BE SENT TO YOU.

For International Preliminary
Examining Authority use only

received not received

<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

The demand is also accompanied by the item(s) marked below:

- | | |
|--|---|
| 1. <input checked="" type="checkbox"/> fee calculation sheet | 4. <input type="checkbox"/> statement explaining lack of signature |
| 2. <input type="checkbox"/> separate signed power of attorney | 5. <input type="checkbox"/> nucleotide and/or amino acid sequence listing in computer readable form |
| 3. <input type="checkbox"/> copy of general power of attorney; reference number, if any: | 6. <input type="checkbox"/> other (specify): |

Box No. VII SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the demand).

Iver Hansen IVER HANSEN, APPLICANT.

For International Preliminary Examining Authority use only

1. Date of actual receipt of DEMAND:

2. Adjusted date of receipt of demand due to CORRECTIONS under Rule 60.1(b):

3. ☐ The date of receipt of the demand is AFTER the expiration of 19 months from the priority date and item 4 or 5, below, does not apply.

☐ The applicant has been informed accordingly.

4. ☐ The date of receipt of the demand is WITHIN the period of 19 months from the priority date as extended by virtue of Rule 80.5.

5. ☐ Although the date of receipt of the demand is after the expiration of 19 months from the priority date, the delay in arrival is EXCUSED pursuant to Rule 82.

For International Bureau use only

Demand received from IPEA on:

CHAPTER II

PCT

FEE CALCULATION SHEET

Annex to the Demand for international preliminary examination

International application No. PCT/NO 00/00240	For International Preliminary Examining Authority use only
Applicant's or agent's file reference STUDNET 2000	Date stamp of the IPEA
Applicant <div style="text-align: center; font-size: 1.2em;">HANSEN, IVER</div>	
Calculation of prescribed fees	
1. Preliminary examination fee SEK 4.200,- P	
2. Handling fee (Applicants from certain States are entitled to a reduction of 75% of the handling fee. Where the applicant is (or all applicants are) so entitled, the amount to be entered at H is 25% of the handling fee.) SEK 1.270,- H	
3. Total of prescribed fees Add the amounts entered at P and H and enter total in the TOTAL box SEK 5.470,- <div style="text-align: center; border: 1px solid black; padding: 2px;">TOTAL</div>	
Mode of Payment	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="checkbox"/> authorization to charge deposit account with the IPEA (see below) </div> <div style="width: 45%;"> <input type="checkbox"/> cash </div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="checkbox"/> cheque </div> <div style="width: 45%;"> <input type="checkbox"/> revenue stamps </div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="checkbox"/> postal money order </div> <div style="width: 45%;"> <input type="checkbox"/> coupons </div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="checkbox"/> bank draft </div> <div style="width: 45%;"> <input checked="" type="checkbox"/> other (specify): TRANSFER FROM MY ACCOUNT IN POSTBANKEN, OSLO, NORWAY. </div> </div>	
Deposit Account Authorization (this mode of payment may not be available at all IPEAs)	
The IPEA/ _____ <input type="checkbox"/> is hereby authorized to charge the total fees indicated above to my deposit account.	
<input type="checkbox"/> (this check-box may be marked only if the conditions for deposit accounts of the IPEA so permit) is hereby authorized to charge any deficiency or credit any overpayment in the total fees indicated above to my deposit account.	
Deposit Account Number _____	Date (day/month/year) _____
Signature _____	

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

To:

Hansen, Iver
Gjerdalsveien 3
N-3442 HYGGEN
Norge

NOTIFICATION OF RECEIPT
OF DEMAND BY COMPETENT INTERNATIONAL
PRELIMINARY EXAMINING AUTHORITY

(PCT Rules 59.3(c) and 61.1(b), first sentence
and Administrative Instructions, Section 601(a))

Date of mailing
(day/month/year)

13-02-2001

Applicant's or agent's file reference
STUDNET 2000

IMPORTANT NOTIFICATION

International application No.

PCT/N000/00240

International filing date (day/month/year)

13-07-2000

Priority date (day/month/year)

13-07-1999

Applicant

Hansen, Iver

1. The applicant is hereby notified that this International Preliminary Examining Authority considers the following date as the date of receipt of the demand for international preliminary examination of the international application:

13-02-2001

2. This date of receipt is:

- ☒ the actual date of receipt of the demand by this Authority (Rule 61.1(b)).
- ☐ the actual date of receipt of the demand on behalf of this Authority (Rule 59.3(c)).
- ☐ the date on which this Authority has, in response to the invitation to correct defects in the demand (Form PCT/IPEA/404), received the required corrections.

3. ☐ **ATTENTION:** That date of receipt is **AFTER** the expiration of 19 months from the priority date. Consequently, the election(s) made in the demand does (do) not have the effect of postponing the entry into the national phase until 30 months from the priority date (or later in some Offices) (Article 39(1)). Therefore, the acts for entry into the national phase must be performed within 20 months from the priority date (or later in some Offices) (Article 22). For details, see the *PCT Applicant's Guide*, Volume II.

- ☐ (If applicable) This notification confirms the information given by telephone, facsimile transmission or in person on:

4. Only where paragraph 3 applies, a copy of this notification has been sent to the International Bureau.

Name and mailing address of the IPEA/
Patent- och registreringsverket
Box 5055
S-102 42 STOCKHOLM
Facsimile No. 08-667 72 88

Telex
17978
PATOREG-S

Authorized officer

Seija Kurvi

Telephone No. 08-782 25 00